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MASSACHUSETTS PLOUGHMAN
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All persons sending contributions to THE
PLOUGHMAN for use in its columns must sign
their names, not necessarily for publication, but
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be sent to the waste-basket. All matter
intended for publication should be written on
note paper, with ink, and upon but one side.

Correspondence from particular farmers, giving
the results of their experience, is solicited.
Letters should be signed with the writer's real
name, in full, which will be printed or not, at
the writer's wish.

THE PLOUGHMAN offers great advantages to ad-
vertisers. Its circulation is large and among the
most active and intelligent portion of the com-
munity.

AGRICULTURAL.

Winter Dairying.

It used to be said that winter dairying
was so much more expensive than summer
dairying that extra profits obtained from it hardly
paid. This impression was due as much to our
general ignorance of how to adapt ourselves
to the new industry as to anything else.
The fact is we can distribute our work
over the winter by a little planning so that it
need not be any more expensive. As it is
now we devote all of our time to summer
dairying, and then when winter comes on
we have little to do. The crowded condition
of farm work in summer is often a worry
to the farmer, and it is also responsible for
much waste and loss. During the rush
season higher farm wages must be paid,
and often enough the products cannot be
marketed or harvested in time to get the
best results. Now, by taking up winter
dairying systematically we redistribute this
whole work, and devote most of our time to
securing good crops for the animals to live
on when giving us the most in return.

One of the weakest points of dairymen in
the past has been that of raising adequate
crops for their animals. The shillies ones
would have indifferent pasture for them in
the early spring and summer, during which
time they would manage to get the heaviest
and richest yield of milk. In the fall and
winter the animals would have to worry
and starve along on cornstalks or other poor
fodder. Those who were more progressive
would provide some soiling crop for late fall
feeding, and would lay in a fair amount of
good hay. But this system even was only a
poor makeshift. It was not until the silo
came into general use that we could see our
way to furnish the cows with something
like decent, succulent food. Now with the
silage, good soiling, winter roots, good
hay and coarse fodder, we can winter our
best milk cows almost as successfully as in
summer. They get not only a variety of
food, but rich, succulent, milk making
ration. They thrive on this food, and with
proper care yield nearly as much milk as in
summer.

Winter dairying thus consists of the
proper distribution of our farm work over
the whole year. In the summer our time
and attention must be given chiefly to the
growing of good crops for winter feeding.
Pastures will supply the cows with their
summer food, and all the heavy, cultivated
crops can then be garnered for winter feed-
ing. This work costs no more than the old
method of raising crops for summer feed-
ing, and letting the animals half starve
through the long winter.

W. E. EDWARDS.

Work and Wages in Slam.

Those who are interested in the com-
parative wages and cost of living, and
there are not many who are not, may like
to study the report of Consul General King
at Bangkok, Siam. He says the wages of
engineers, plumbers, blacksmiths and boiler
makers are 92 1/2 to 75 cents a day in gold,
carpenters, cabinet makers and bricklayers
30 to 40 cents, tailors for gentlemen and
ladies 50 cents, laborers 15 to 30 cents, and
farm hands \$12 to \$13 per season and found.
They are unusually high just now because
the King of Siam is converting a large tract
of jungle waste into a royal park, and build-
ing palaces, stables, cottages and conserva-
tries, which employs much extra labor.

We might expect the prices of food to be
correspondingly low, but he gives the follow-
ing as prices also in gold: Butter 30 to 45
cents a pound, hard 35 to 39 cents, flour 75
to 12 cents, rice 13 to 45 cents, eggs 28 to 35
cents, ham and bacon 23 to 45 cents, mutton
25 cents, pork 34 cents, sugar 6 to 84 cents,
turkeys \$2.50 to \$5 each, geese \$1.50 each,
ducks 20 to 30 cents each, chickens 15 to 30
cents each, pork 12 to 18 cents a dozen,
canned 30 to 35 cents per can. He says that
the houses of one room, about 10 feet
square, sit upon the floor, sleep upon
mats, and cook on a brazier of earth
in an earthen crock, and the whole family
eat their rice and vegetables out of the
same dish, with cut knife, fork or spoon.
They have sometimes a few eggs, and on
rare occasions chickens, but other meats
are but seldom used by the laboring classes.



SPANISH MERINO.

excepting the Chinese, who form the larger
part of the mechanics, use considerable
of the native pork. Furniture costs for a chair
90 cents to \$3, bedstead \$9 to \$15, mattress
\$4.50 to \$9, dining table \$6 to \$10, but most
of them have no use for such luxuries, and
but little for clothing excepting a cloth
around the loins, and for women another
around the breast. No shoes are worn, and
very seldom a covering for the head. There
seems to be in this but little to tempt the
workingman from the United States to
emigrate to that country, yet few from
there ever come to this country.

Frost in Orange Groves.

Uneasy lies the head that rules an orange
or a lemon grove in southern California
these midwinter days, for no one knows
when Jack Frost may skurry down from
the snow-capped peaks of the Sierras and
leave damaged citrus trees and ruined crops
in the hoary wake of his flight through
the valleys and along the foothills. To
be sure, the present season is as sunny,
balmy and fragrant as any winter ever was
in this semi-tropical land; and, to be sure,
there has never been a disastrous visit
by Jack Frost in this region, yet no one can
tell what night the dreaded old fellow may
take it into his head to drop down from the
mountains even for a few hours. Until
some invention is made towards safe frost
protection in citrus-growing regions, there
will always be some uneasiness among the
growers from the beginning of winter until
the fruit crop is picked, packed and on the
way to market.

Conservative estimates of the quantity of
oranges now on the trees and hanging to
maturity in southern California are 6,450,000
boxes, or over 17,000 carloads, valued at
some \$7,000,000 to the growers. A tempera-
ture of 25 or 24 degrees above zero through-
out southern California a few hours some
of these winter nights would diminish this
value by some \$4,000,000 or \$5,000,000—per-
haps ruining the whole crop for market.
It has been estimated that some \$40,-
000,000 or \$42,000,000 has been invested in
orange and lemon-growing industry in Cal-
ifornia. A few hours of temperature below
17° above zero would ruin from one-half to
one-third of this investment and wipe out
the toil of years. The most reliable me-
teorological reports in southern California
show that during 27 years the mercury
in the citrus-growing valleys
has never been below 24° above
zero, and that only for two hours at dawn
on the morning of Dec. 24, 1891. For
several years the temperature in the orange
and lemon groves has never fallen below 30°
above zero, and then only for a few minutes
at daybreak. It is, therefore, seen that a
device by which the temperature in a citrus
grove may be raised only a few degrees, and
for a short period, when there is extra dread
of frost, will almost always suffice as a
protection to trees and fruit.

WATER PROTECTION.

Almost numberless schemes have been
devised for checking frost attacks in orange
and lemon groves, but so far, none is gen-
erally accepted as reliable. Experiments of
experience have shown that the faith-
ful use of water during the night
that damage by frost is expected, and frost
never comes upon the horticulturist without
warning by a lowering temperature of
twelve or twenty-four hours. They say they
are able to raise the surface air by two or
three degrees of warmth. The plan is to

plow long, shallow furrows between the
rows of trees through the length and breadth
of the orchard, and then by turning on
the irrigation gates at the upper end of the
grove, to create a network of little water-
ways, when the mercury shows that the
temperature is slowly creeping down to the
danger point. Scientifically explained the
evaporation (which is always rapid in a dry
region as southern California) from the
flooded land raises the dew point of the
surface air among the fruit trees, and
thereby diminishes the chance of frost.

From the middle of December to early in
February, when the lofty Sierras are laden
with snow and when telegraphic reports
appear in the daily newspapers of blizzards
in Kansas, Nebraska and the Mississippi
valley States, all watchful orange growers
in southern California keep their ther-
mometers near at hand. On nights when
the mercury is down at 40° above zero at 10
o'clock, the prudent grower will be up all
the night looking after his crop, which may
be worth at evening \$200 or \$300, and
valueless before the next sunrise. When the
grower observes at midnight that the mer-
cury has fallen to 35° or 32° degrees above
zero, he opens the gates of his irrigation
pipes, and from that time until the sun is
up water is run through the furrows close
about the trees.

SMUDGE FIRES.

Many men engaged in growing oranges
have tried the smudge bonfire means of
raising the temperature among orange
groves. On the day or the evening previous
to the anticipated visit from Jack Frost,
pans, kettles and all manner of vessels by
hundreds are arranged between the rows of
trees, and are filled with tar or crude petro-
leum. When the mercury is slowly lower-
ing at 1 or 2 A. M. the contents of the ves-
sels are lighted, and a black heavy smoke
arises and floats over and among the acres
of trees. Other growers create a smudge
by means of green vegetation, but both
methods are expensive and cannot always
be executed because of a lack of materials
at the very time they are most needed. A large
number of the best horticulturists pool-
pool the idea of raising the temperature of
a place of land by smudge fires. They say
that the warm air from the fires rises fast,
cold air rushes down from the upper atmos-
phere to the earth, and then up again, thus
creating a draught that is more productive
of frost damage to fruit than without
smudge fires.

CANVAS OR BURLAP COVERINGS.

A few citrus fruit growers have adopted
the method common among the lemon and
orange growers in Sicily and along the
coast of the Mediterranean by covering their
trees with canvas or burlap when the mer-
cury is slowly descending. This plan,
however, will never be popular, because it
is expensive, involves great labor in getting
the coverings out and properly placed when
there is a suspicion of a visit by Jack Frost,
and in a settlement of orange growers labor
cannot be had many times at any price,
when every one is fearful of damage
by a cold wave. To make the coverings
on the trees do their best service,
huge poles must be set up between
the rows of trees, and wires strung
permanently from one pole to another,
so as to be ready for the fatal
night of coldness. The poles and wire are
a perennial nuisance when the oranges are
picked, and each day that the incessant
round of plowing, cultivation and irriga-

tion takes place in the grove. Besides
there is heavy expense to thus equipping an
orange grove, and the coverings are by no
means a sure armor from the attacks of
frost.

PETROLEUM FIRES.

The apparatus that H. D. Everest of
Rochester, N. Y., a stockholder in the
Standard Oil Company, had constructed at
his famous 80 acre orange grove near
Riverside, Cal., a few years ago has been
found quite practical for fighting frost, but
its cost is very heavy, and a man will think
a long time about having a similar appar-
atus in his own grove—until he knows that
it is an absolute annihilator of frost in any
degree. Mr. Everest had common
black gas pipes laid one foot in
the soil between the rows of trees.
These pipes led to several covered reser-
voirs, like huge hogheads, perched on
a trestle some 20 feet in the air. Then at
intervals of 50 feet among the trees he had
set up iron pipes 10 feet high, and on the
top of these were fixed firing oil burners,
which produced a mammoth flame and clouds
of heavy soot. The reservoirs were filled
with crude petroleum (which is very cheap
in southern California by reason of newly
discovered oil wells), and the oil ran by
gravity through the system of pipes to the
big burners. Mr. Everest also equipped his
beautiful home among the orange trees with
electric thermometers, so fixed that when
the mercury went down below 35° or
32° above zero little bells would be rung,
and the hired men would be called from
their beds to light the flame at each oil
burner. A half dozen men could quickly
turn on the flow of oil at the several
reservoirs, and, torches in hand, could run
from burner to burner until the whole grove
was illuminated by the uneasy, smoky
flames. This novel anti-frost scheme has
been tried several times, but since the grove
had a hard nip from Jack Frost last year,
notwithstanding the expensive and thorough
preparations for baffling him, Mr. Everest's
plan has not been in favor.

ARTIFICIAL FOG.

Another wealthy orange grower of sci-
entific bent, David E. Pease, formerly of the
Baltimore & Ohio Railroad Company, has
been busy for two years experimenting with
an apparatus he has devised for creating an
artificial fog, which he believes will do more
than all else to bar frost forever from his
large grove near Santa Anita, in Los An-
geles County. He laid pipes throughout
his orange trees and built reservoirs, the
same as Mr. Everest did at Riverside, but
he will use water instead of oil, and has a
spray device at the top of each standpipe so
that the water flowing there by gravity will
be transformed into a spray so fine as to
make a mist similar to a fog. The most im-
portant part of the system lies almost
altogether in the fixture by which the mist
is created, and this part of the fog-pro-
ducing system has not been perfected.

A LATTICE HOUSE.

At Riverside (the most important orange-
growing locality in the United States) a
Standard Oil millionaire, who comes from
New York to spend his winters in southern
California, has devised a successful but
very expensive means of safely protecting
his growing oranges from Jack Frost's
hands. Over the tops of 60,000 13-year-old
orange trees, 60 acres, an enormous roof of
lattice work has been built. The space be-
tween the lattice is about an inch, and ex-
perience has shown that even this is suf-

ficient protection for the ripening fruit
from moderately frosty atmospheres. The
enormous lattice house costs thousands
of dollars annually to keep in repair. The
device seems to answer its purpose, but it
is safe to say that it will not be imitated by
the average orange and lemon grower in
southern California. The lattice roof is
constructed in sections of ten feet square,
so that sections may be removed from the
grove during the summer season. When
December comes the lattice sections are put
back on the framework, and the great roof
once more is a barrier between frost and
ripening fruit.

ARTIFICIAL WIND.

The State Horticultural Commission of
California has been giving much attention
lately to the most unique idea yet proposed
for fighting frost in the orchards. A young
ranchman in Santa Barbara County has
come forward with a plan for producing
economically and easily wind currents.
Frost always comes on calm, clear nights,
when there is not a breath of air stirring,
and no dampness in the atmosphere.
If a breeze springs up in a cold night the
growers rejoice. Now, this young ranch-
man proposes that breezes among the
orange trees may be made by the use of
banks of some chemicals, which when fired
will liberate gases so as to make a draft or
wind current. Just what the composition
of the bricks may be he is not chemist
enough to say, but his crude idea is so good
that a score of scientists throughout Cal-
ifornia are now at work upon it. The State
Horticultural Commissioners say there is
no doubt that if wind currents can be
generated for several hours, when Jack
Frost hovers near an orange grove, the
temperature may be raised three or four
degrees by the mixing of the air strata.
That's enough to save a crop.

The idea for invention along the line of
killing frost in the semi-tropical land is grow-
ing, and he who gives the growers a safe,
cheap and easy means of saving their crops
of oranges and lemons from their grim
enemy year after year will be the most pop-
ular man in California, and soon make a
royal fortune besides.—Correspondent New
York Evening Post.

A Word on Grapes.

The grape article by Mr. Chambers in a
recent issue of your paper gives support to
the continuing of growing Concord and
Niagara for market. Now it seems to me
that there are many varieties which should
replace these. Duchess, Brilliant, Diamond,
Carmar, Campbell's Early, should be
planted for market as well as the old Iona
and Walter (the best of all).
Of over a hundred varieties in my five
acres of vineyard I haven't a vine of Niagara
or Concord, except as stocks. I still grow
some Outrage for jelly. I have little fault
to find with Delaware and Catawba, but
would add the third old red grape, the
Diana.

I suggest the marketing of five pound bas-
kets containing several varieties, so that
they could be used for dessert, adding per-
haps some of the bunches with small berries
as the Grenache or Alroy. How much more
attractive such a basket would be than one
filled with only Niagara, for instance.

I have also added a few fine fancy peaches
and pears and found that they are appre-
ciated by my customers. Had I a hundred
or more acres perhaps this wouldn't be
practicable. I am now growing all Gay
wood's varieties extant. The standard
quality is the highest.

ELBERT WAKEMAN.
Mellencourt, Millbrook, L. I.

The Famouse Apple.

In a recent issue of your paper I notice
the quality of the Famouse apple is dis-
cussed. In this locality the most of the
Famouse apples are gone. Usually they are
small and fit to use and eat in November,
not often keeping until Dec. 1.
Now I have a tree of Famouse apples that
has many apples which measure 2 1/2 and 2 3/4
inches in diameter, and which prove to be
among the latest keepers. Last year I had
Famouse apples after the middle of April,
and my apple crop was very poor. This
year I sprayed just as the buds were swell-
ing, using a good, strong solution of Paris
green, with plenty of strong lime water.

One object of my writing you at this time
is to say that if a limited number of the
readers of your paper will send me their
address on an envelope, with stamps to pay
postage, I will send them some seasons from
this Famouse tree. Mr. J. Kennedy of
Monmouthville, an apple buyer, says he never
saw the equal of my Famouse apples.
Minden, N. Y. J. H. KELLER.

Running out Corn.

One of the solutions of the corn problem
is that of yield. In many cases where the
yield is so small that it hardly pays to raise
corn, the trouble is that the seed has run
out. When a farmer boasts of his big yields
a few years ago, and then says that he can-
not make as good any more, there is
trouble with the soil, with the seed or with
his methods. Which one of these troubles
is at the foundation of his failure is not an
easy matter to discover. Most men will not
admit that it is their methods. They much
prefer to abuse the soil, which is only an
indirect way of condemning their methods
of culture. If corn is cultivated with an
idea in view of keeping up the fertility of
the soil, the latter will not degenerate. We
give to the soil as much as we take from it.
The trouble with most of us is that we like
to take a little more than we give, and in
the course of time the soil degenerates and
becomes poor.

But the degeneration of the seed, or the
running out of the corn, is often more dan-
gerous than permitting the soil to go back
on us. Annually the yield and quality of
the corn declines, and yet we continue to
use the same seed. Among the dozens of
different kinds of corn recommended there
are really only a few breeds that are first
class, and when a farmer secures such seed
he is apt to stick to it. But the trouble is
that these good breeds are maintained at
their high standard only by careful artificial
methods of breeding and cultivating. They
will degenerate very rapidly if not care-
fully handled. When you get new seed
of an excellent breed of corn it has
sufficient vigor to adapt itself to the
new soil and conditions. But each year
thereafter there will be a little falling
off from the high standard. For the first
two or three years there will be little
appreciable change, but after that the vigor
of the seed weakens rapidly. Good culture
and congenial environments will go a long
way toward conserving the force of the
corn, but even these will not do for all
time. The corn plants become weaker and
are more susceptible to attacks of insects
and blights and droughts. The yield and
quality grow smaller every year. There is
only one corrective to all this. Renew the
seed, add new blood and vitality and keep
up the high standard.
Illinois. W. E. EDWARDS.

The horse breeders of Nova Scotia are
well supplied with well-bred trotting sta-
tions and fast ones too. Mr. J. K. Hogg
of Shelburne, N. S., from whom we received
a pleasant call last week, informed us that
along the coast in this section are about
Wilkes (211), by Red Wilkes; Warren Guy
(124), by Princess; Farron (204), by Al-
lerion (269) and other good ones. Mr. Hogg
himself owns two or three, one of which is
Black Volunteer, by Volunteer Prince 1613;
dam by Dan Morrill, a son of old Morrill;
second dam a son of the thoroughbred im-
ported Stag. Volunteer Prince was by Vol-
unteer 55. His dam, Fanny, was by the old
Drew Horse of Maine, his second dam by
Witherell Messenger, and his third dam the
Old Eaton. Black Volunteer, as his name
indicates, is black, and transmits that color
to his offspring with great uniformity.
Another of his stallions is a 16-hand son of
Mascot. The latter was by Onawa (232).
Mr. Hogg prefers a good stallion for road
purposes to either a mare or gelding. He
had a remarkable roadster stallion a few
years ago that was sired by Live
Oak, an inbred Morgan stallion, owned
at one time by the Rev. W. E.
H. Murray. A likeness of Live Oak ap-
pears in that gentleman's entertaining book
"The Perfect Horse." Mr. Hogg greatly
enjoyed driving this son of Live Oak. His
dam was a thoroughbred daughter of im-
ported Saladin. She could show a 280 clip
at the trot on a loose rein, and though
thoroughbred was as honest a trotter as
could be found. This Saladin cross is
found in the pedigrees of many of the best
trotters that have been raised in that sec-
tion. Mr. Hogg is an advocate of the right
kind of a thoroughbred cross in a trotting
pedigree. He likes to have it close up and
in strong infusions. He says that judging
from what he saw and the animals that he
prized while in Boston, good horses are
selling for more money down in his section
than in this city.

The Flora Temple and Centreville Wagon Race, in 1852.
BY GEORGE B. FLOYD.

Hiram drove Flora Temple in most all her races, from the commencement of her career until 1856. The last race he drove the little mare was in a race with Taquoy, September, 1856. It was a match race for \$1000 a side. Taquoy had beaten Flora three or four times, and Flora had turned the tables on him three or four times. In the race Sep-



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

ter" he has a summary of a race between Granite State and Lady Dunken which calls forth a remembrance. Nathan Washburn, then 44 years old, was a wealthy car wheel manufacturer of this city. Being a lover of the horse he and George Wesson went to New Hampshire and bought a gray horse that they called Or Wheel. He proved a fast roadster and was finally matched to trot at Hartford, mile heat, best three in five, against the gay horse Granite State. George Wesson drove Or Wheel in this race but Granite State won and all Worcester went broke.

In 1859, Jim Eoff, a good trainer, but not as

den County, Mr. Lebourveau has greatly im-
proved the buildings, especially the stables.
I had been told much about his model
stables and planned to call on our new
neighbor. I found him at home, and he is
one of those genial, gentlemanly horsemen
that it does one good to meet. I declined
an invitation to enter the house, as I came
more particularly to make his acquaintance
and view the stable.

Upon entering the coachroom the first
thing that met the eye was a carpet of

[illegible]

 <p>No. 490</p>	 <p>No. 496</p>
<p>\$28.00 for hand made, slip sided FREE breeding HARNESSES, Bolt traces, 12 collar, 1 in. 50 1/2, long breast and pole straps 1 in. 2, 2 alk strap. Long collar, 30 ft. 50 with collar. 50 stock and the very best skilled workmanship. Any harness or we sent in this place or money will be returned.</p>	<p>\$24.50 have our FREE breeding HARNESSES, Bolt traces, 12 collar, 1 in. 50 1/2, long breast and pole straps 1 in. 2, 2 alk strap. Long collar, 30 ft. 50 with collar. 50 stock and the very best skilled workmanship. Any harness or we sent in this place or money will be returned.</p>

21 ft. long, 10 in. 1/2, hand used breast strap, 1 in.
 2, 2 alk strap. Long collar, 30 ft. 50 with collar. 50
 stock and the very best skilled workmanship. Any harness or
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